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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,630	07/25/2003	David Keith Bowen	032516-003	9628
21839	7590	06/29/2005	EXAMINER	
BUCHANAN INGERSOLL PC (INCLUDING BURNS, DOANE, SWECKER & MATHIS) POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			HO, ALLEN C	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

<b>Office Action Summary</b>	<b>Application No.</b> 10/626,630	<b>Applicant(s)</b> BOWEN ET AL.	
	<b>Examiner</b> Allen C. Ho	<b>Art Unit</b> 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,5-11,13-16,19 and 23-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5-11,13-16,19 and 23-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Objections*

1. Claim 16 is objected to because of the following informalities: Claim 16 recites the limitation "high energy radiation", which is inconsistent with the high-energy x-ray source. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, 6, 13, 15, 16, 19, 28, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Wei *et al.* (U. S. Patent No. 5,231,655).

With regard to claims 1 and 13, Wei *et al.* disclosed a Soller slit device comprising: a plurality of parallel blades (310) constructed from glass sheets (column 5, lines 45 - 51) each having a thickness less than 250  $\mu\text{m}$  (column 4, lines 59 - 62) and whose surfaces have a non-reflective treatment (330) to absorb divergent x-rays.

Claims 5 and 6 fail to set forth additional structural limitations. Accordingly, they are rejected with claim 1. MPEP § 2114.

With regard to claim 15, Wei *et al.* disclosed the Soller slit device of claim 1, wherein the surface of each of the blades is etched (column 6, lines 8 - 21).

With regard to claims 16 and 28, Wei *et al.* disclosed a system comprising: a high-energy x-ray source (20); a high-energy radiation collimating device comprising a plurality of parallel blades (310) constructed from glass sheets (column 5, lines 45 - 51) each having a thickness less than 250  $\mu\text{m}$  (column 4, lines 59 - 62) and whose surfaces have a non-reflective treatment (330) to absorb divergent x-rays; and a device (40) for collecting high-energy radiation after the high-energy radiation impinges on a sample to be examined.

Claim 19 fails to set forth the structure of the Soller slit device. Accordingly, it is rejected with claim 16.

With regard to claim 30, Wei *et al.* disclosed the diffractometry system of claim 16, wherein the surface of each of the blades is etched (column 6, lines 8 - 21).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-11 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wei *et al.* (U. S. Patent No. 5,231,655) as applied to claims 1 and 16 above.

With regard to claims 7-9 and 23-25, Wei *et al.* disclosed the Soller slit device of claim 1 and the diffractometry system of claim 16. However, Wei *et al.* failed to disclose the length of the blade.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide blades having a length in the range of 12-15 cm, since a person would be motivated to provide a blade having a length that is long enough to cover the detector modules.

With regard to claims 10, 11, 26, and 27, Wei *et al.* disclosed the Soller slit device of claim 1 and the diffractometry system of claim 16. However, although Wei *et al.* disclosed that the thickness of the glass sheet is less than 250  $\mu\text{m}$ , Wei *et al.* failed to teach a thickness of approximately 50  $\mu\text{m}$ .

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide blades having a thickness of approximately 50  $\mu\text{m}$ , since a person would be motivated to closely approximate the straight line in each channel by using thinner glass sheet (Figs. 4(a) and 4(b)).

6. Claims 14 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wei *et al.* (U. S. Patent No. 5,231,655) as applied to claims 13 and 28 above, and further in view of Moulton (U. S. Patent No. 6,494,618 B1).

With regard to claims 14 and 29, Wei *et al.* disclosed the Soller slit device of claim 13 and the diffractometry system of claim 28. However, Wei *et al.* failed to teach that each blade has a coating of barium sulfate.

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Moulton disclosed that barium sulfate is an x-ray attenuating material (column 5, lines 48 - 50).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to coat the blades with barium sulfate, since a person would be motivated to use a material that has demonstrated usability as an x-ray absorbent material.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen C. Ho  
Primary Examiner  
Art Unit 2882

25 June 2005